

## Specification

### VISUAL CELL PHONE NOTIFICATION OF PROCESSED FILM IMAGES

#### Background of the Invention

#### Field of the Invention

The present invention relates generally to photographic film processing, and more particularly to a method wherein a traditional analog film processing facility can send film images and notifications to a customer's visual display cell phone; and wherein the customer can preview and forward the images and place purchase orders with the processing facility through the cell phone or similar wireless communication device such as a hand held computer.

#### Description of the Prior Art

Traditional, film based camera technology provides excellent image detail and is well understood by the general public. Cameras with "instant" hard copy picture development do not provide the quality or flexibility of conventional film development at film processing centers, where the film can be developed and printed in a variety of ways. In order to obtain these benefits, the film must be sent to the processing center, where the film processing may take hours or days. At this point, prints can be examined and further processing can be requested as required. This time consuming series of events is a disadvantage of film based photography. The newer digital camera technology is rapidly becoming popular as digital cameras become more affordable, and as the general public becomes more familiar with digital equipment. As digital camera resolution, ease of

1 use and price improve, a larger number of consumers will be drawn away from using film based  
2 cameras. As a result, the business of film processing and related equipment sales will suffer unless  
3 the film development houses adapt to the new digital offerings. Mobile cellular based phones are  
4 widely used, and have reached a critical mass in many countries. Mobile handsets are now used not  
5 only for making phone calls but also for other activities such as browsing the Internet, including  
6 viewing images on a display that is available with the phones. In addition, portable devices such as  
7 hand held PCs are offering similar wireless cellular connectivity.

8 In view of the above remarks, it is clear that there is a need to add convenience features to  
9 film technology in order to compete with the rapidly advancing digital camera business.

## SUMMARY

10 It is therefore an object of the present invention to make the processing of film more  
11 convenient to the customer.

12 It is another object of the present invention to provide a method wherein a customer can  
13 preview images sent from a film processing service to the customer's display on a cell phone.

14 It is a further object of the present invention to provide a method wherein a film customer  
15 can quickly and easily review developed pictures, without the need to physically return to the  
16 location where the film was processed.

17 It is a further object of the present invention to provide a method wherein a film service  
18 facility scans a developed film and sends image data to a consumer's visual cell phone for  
19 previewing of the image by the consumer.  
20  
21

1 It is a still further object of the present invention to provide a method wherein a consumer  
2 can receive film images on a visual cell phone display and then forward the images to another cell  
3 phone with visual display and/or to a computer.

4 It is an object of the present invention to provide a method wherein a consumer can preview  
5 film images from a film service on a cell phone visual display and place an order for prints and  
6 enlargements based on the previewed images.

7 Briefly, a preferred embodiment of the present invention includes a method relating to film  
8 photography wherein a consumer can preview images of developed film sent from a film service  
9 facility to a consumers cell phone equipped with a visual display. The consumer delivers the film to  
10 the service where the film is developed, and then scanned to create digital picture data. The picture  
11 data is then sent to the consumer's cell phone equipped for reception of the digital image data, and  
12 in response to the data, the cell phone displays the pictures on the camera's image display. The  
13 consumer then views the pictures and can make decisions concerning how many prints of each  
14 image to order. The print order can then be placed with the service through the cell phone.  
15 Additional features include the consumer processing the digital image data, including forwarding  
16 the images to another cell phone or to a computer, and/or specifying a method of payment, and/or  
17 film and print delivery.

18 An advantage of the present invention is that it provides a more efficient method of getting  
19 film processed.

20 A further advantage of the present invention is that it allows a consumer the opportunity to  
21 view film images prior to ordering prints.

1 A still further advantage of the present invention is that it provides a consumer with a digital  
2 copy of a film based image, wherein the digital copy can be processed using digital techniques,  
3 including the facility for forwarding the images to another cell phone and/or a computer.  
4

#### 5 **In the Drawing**

6 Fig. 1 illustrates hardware used in the method of the present invention;

7 Fig. 2 is a flow chart of the method of the present invention;

8 Fig. 3a illustrates a first of a sequence of messages and instructions on a cell phone display;

9 Fig. 3b illustrates a second of a sequence of messages and instructions on a cell phone  
10 display;

11 Fig. 3c illustrates a third of a sequence of messages and instructions on a cell phone display;  
12 and

13 Fig. 4 illustrates various interactive displays allowing a user to enter information regarding  
14 film processing instructions to be sent to the processing lab upon placing a print order.  
15

#### 16 **Detailed Description of the Preferred Embodiments**

17 Referring now to Fig. 1 of the drawing, the method of the present invention will be  
18 described in reference to the various hardware items displayed. The process or i.e. method begins  
19 with a consumer 10 delivering a film to a film processing service 12. The service 12 develops the  
20 film (not shown) and then proceeds to scan the film. This is symbolically represented in Fig. 1 by a  
21 scanner 14. The scanned digital data is stored on a computer 16. Generally, this scanning is done at  
22 a low resolution for providing relatively small, positive images for review/evaluation. These are  
23 called "thumbnails". Thumbnails are typically about 160x120 pixels in size for a 4x3 aspect ratio

1 image. Due to the low resolution, an enlargement of these images would not have an acceptable  
2 quality, and therefore the "thumbnails" have little value and can be freely distributed prior to a sale.

3 A novelty of the present invention includes sending the scanned image data to the  
4 consumer's cell phone 18, typically through a phone network 20. The consumer 10 can then view  
5 the "thumbnails" and determine the sizes and quantities of prints desired. An order for prints can  
6 then be communicated to the service 12. The consumer can also send the "thumbnail" image data to  
7 another cell phone 22 or to a computer 24. Although the preferred embodiment includes use of a  
8 programmable cell phone equipped with a visual display, the method of the present invention also  
9 includes any wireless, computerized, handheld apparatus or otherwise portable apparatus with a  
10 visual display, to which a user can receive and send messages, etc. A typical alternative is a  
11 wireless portable/handheld computer.

12 Although the preferred method described above uses low resolution "thumbnail" data, the  
13 method also includes the service 12 scanning and sending high resolution data. This, for example,  
14 would preferably be done subsequent to pre-payment to cover the value of the high resolution data.

15 Fig. 2 is a flow chart of the preferred method of the present invention. A consumer  
16 sends/delivers film to a processing service 12 (block 26). The service 12 develops the film (block  
17 28), and then scans and stores the film as digital image data (block 30). The data can be either low  
18 or high resolution data or both. According to the preferred embodiment, the service 12 then  
19 transmits the thumbnail, low resolution data to the consumer cell phone equipped for viewing digital  
20 images (block 32), and may include a notice that prints are ready for pick-up. Alternatively, the  
21 service can refrain from printing, and require that the consumer provide a print order after viewing  
22 the thumbnail images. As a further embodiment, the service can transmit high resolution image  
23 data as described above. With the image data in the cell phone, the consumer can then activate the

1 cell phone and display the images (block 34). The consumer can then decide what images are  
2 needed and what kind of prints are desired and order the prints (block 36). The consumer can also  
3 forward the thumbnail image data (block 38). As a further embodiment, a user can call the service  
4 facility lab by clicking on a displayed icon (block 40). This will be described in further detail in  
5 reference to Figs. 3a-3c.

6 The above description of the present invention is particularly applicable as illustrated for  
7 conveying film processing information and results, and for conducting related business dealing with  
8 the processing of photographic film. Fig. 2 also illustrates the use of the visual cell phone for  
9 communication relating to photographic processes based on a digitally acquired image. In this  
10 embodiment of the invention, a person can upload digital image data (block 27) for reception by a  
11 photographic processing service (block 29). The processing service can then store the images as  
12 image data and subsequently perform various processes/procedures on the images. Low or high  
13 resolution thumbnails of the resulting images can be prepared (block 31) and transmitted for review  
14 by a customer (block 32). The description of the procedures of blocks 32-40 are the same when  
15 dealing with photographic services relating to the processing of digitally acquired images.

16 Figs. 3a-3c illustrate a series of messages/instructions displayed on the cell phone. Fig. 3a  
17 shows an initial message notifying the consumer that prints are ready, and giving instructions on  
18 viewing the thumbnails/images. Fig. 3b illustrates an instruction to view additional images, and an  
19 instruction on how to request prints. Fig. 3c illustrates an instruction regarding billing. These  
20 messages are examples, and represent the preferred embodiment. The present invention includes  
21 other messages and instructions.

22 In general, the above description includes the preferred embodiments. Various alternatives  
23 will be apparent to those skilled in the art upon reading the present disclosure and these are to be

1 included in the spirit of the present invention. For example, according to the present invention, the  
2 cell phone can be replaced with any hand held device for receiving visual images, such as a Palm or  
3 Handspring PDA. Numerous billing options can be communicated on the cell phone display, such  
4 as including the processing bill with the customer's telephone bill, or paying the bill through a  
5 charge card/VISA, etc. The display may include delivery options, such as pick-up by the customer,  
6 or mailing the results to the customer's home, etc. A provision can also be included on the screen  
7 whereby the user/consumer can automatically make a phone connection to the process service lab.  
8 Such a phone connection may be automated, or can even be a live connection to speak to a person in  
9 the lab. In this case, when a special icon is provided to make the phone connection, clicking on the  
10 icon can first send an instruction to a service lab computer to put the consumer's account job data on  
11 the lab computer screen, so when the lab attendant picks up the phone he has reference to the job  
12 immediately. As another factor, if an APS film is used where the film has a unique identification,  
13 this identification can be included on the cell phone screen.

14 Fig. 4 illustrates a further interactive optional feature of the method of the present invention.  
15 When an image 42 is displayed on the cell phone 44 display 46, the user is presented with image  
16 adjustment options. The image 42 as shown, represents the image in brightness and color as it  
17 would be printed if the user were to order prints. In film processing, some variations are possible,  
18 and these variations can be communicated to the processing lab. The user, for example can adjust  
19 the color characteristic by selecting a position on a color scale 48. Image brightness can be adjusted  
20 by clicking on the up or down arrows 50 and 52 respectively. The processing lab can also offer  
21 additional features to the user through interactive selection. For example, the customer can select to  
22 have a border 54 placed around the image 42 by clicking on "border". Once "border" is selected,  
23 the color of the border can be adjusted by selecting a position on the color scale 48. Clicking on

1 "color" at this point can return the function of the color scale 48 to the image 42. The user can  
2 select an image size for printing by clicking on "size" box 56 select arrows 58, 60. The program in  
3 the cell phone 44 stores these various data, and when the user selects to order prints, the custom  
4 alternations as explained above are sent to the processing lab computer automatically over the  
5 phone network as instructions for processing along with the print order. These and other variations  
6 are included in the spirit of the present invention.

7 What is claimed is:

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